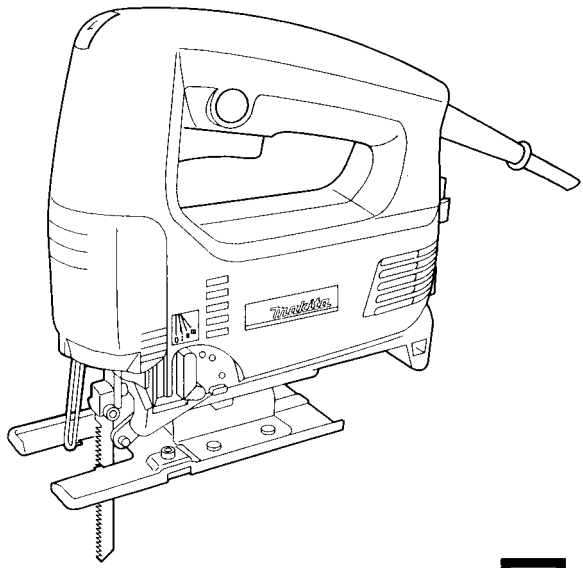
アメリカ

Jig Saw

MODEL 4324

INSTRUCTION MANUAL



DOUBLE INSULATION

SPECIFICATIONS

Length of stroke	Max. cutting capacities		Strokes per minute	Overall length	Net weight
	Wood	Mild steel			
18 mm (11/16")	65 mm (2-9/16")	6 mm (1/4")	500 – 3,100	207 mm (8-1/8")	1.9 kg (4.2 lbs)

* Manufacturer reserves the right to change specifications without notice.
* Note: Specifications may differ from country to country.

WARNING: For your personal safety, READ and UNDERSTAND before using.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

IMPORTANT SAFETY INSTRUCTIONS

(For All Tools)

WARNING: WHEN USING ELECTRIC TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, AND PERSONAL INJURY, INCLUDING THE FOLLOWING:

READ ALL INSTRUCTIONS.

1. KEEP WORK AREA CLEAN. Cluttered areas and benches invite injuries.
2. CONSIDER WORK AREA ENVIRONMENT. Don't use power tools in damp or wet locations. Keep work area well lit. Don't expose power tools to rain. Don't use tool in presence of flammable liquids or gases.
3. KEEP CHILDREN AWAY. All visitors should be kept away from work area. Don't let visitors contact tool or extension cord.
4. STORE IDLE TOOLS. When not in use, tools should be stored in dry, and high or locked-up place — out of reach of children.
5. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was intended.
6. USE RIGHT TOOL. Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use tool for purpose not intended; for example, don't use circular saw for cutting tree limbs or logs.
7. DRESS PROPERLY. Don't wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
8. USE SAFETY GLASSES. Also use face or dust mask if cutting operation is dusty.
9. DON'T ABUSE CORD. Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
10. SECURE WORK. Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
11. DON'T OVERREACH. Keep proper footing and balance at all times.
12. MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged, have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean, and free from oil and grease.
13. DISCONNECT TOOLS. When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.

14. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
15. AVOID UNINTENTIONAL STARTING. Don't carry tool with finger on switch. Be sure switch is OFF when plugging in.
16. EXTENSION CORDS. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table 1 shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord.

TABLE 1 MINIMUM GAGE FOR CORD SETS

Ampere Rating More Than	Not More Than	Total Length of Cord in Feet 0 – 25	26 – 50	51 – 100	101 – 150
		A W G			
0	6	18	16	16	14
6	10	18	16	14	12
10	12	16	16	14	12
12	16	14	12	Not Recommended	

17. OUTDOOR USE EXTENSION CORDS. When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
18. STAY ALERT. Watch what you are doing, use common sense. Don't operate tool when you are tired.
19. CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Don't use tool if switch does not turn it on and off.
20. GUARD AGAINST ELECTRIC SHOCK. Prevent body contact with grounded surfaces. For example; pipes, radiators, ranges, refrigerator enclosures.
21. REPLACEMENT PARTS. When servicing, use only identical replacement parts.
22. POLARIZED PLUGS. To reduce the risk of electric shock, this equipment has a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

VOLTAGE WARNING: Before connecting the tool to a power source (receptacle, outlet, etc.) be sure the voltage supplied is the same as that specified on the nameplate of the tool. A power source with voltage greater than that specified for the tool can result in SERIOUS INJURY to the user — as well as damage to the tool. If in doubt, DO NOT PLUG IN THE TOOL. Using a power source with voltage less than the nameplate rating is harmful to the motor.

ADDITIONAL SAFETY RULES

1. Avoid cutting nails. Inspect for and remove all nails from the workpiece before operation.
2. Do not cut hollow pipe.
3. Do not cut oversize workpiece.
4. Check for the proper clearance beneath the workpiece before cutting so that the blade will not strike the floor, workbench, etc.
5. Hold the tool firmly.
6. Make sure the blade is not contacting the workpiece before the switch is turned on.
7. Keep hands away from moving parts.
8. When cutting through walls, floors or wherever "live" electrical wires may be encountered, DO NOT TOUCH ANY METAL PARTS OF THE TOOL! Hold the tool only by the insulated grasping surfaces to prevent electric shock if you cut through a "live" wire.
9. Do not leave the tool running. Operate the tool only when hand-held.
10. Always switch off and wait for the blade to come to a complete stop before removing the blade from the workpiece.
11. Do not touch the blade or the workpiece immediately after operation; they may be extremely hot and could burn your skin.

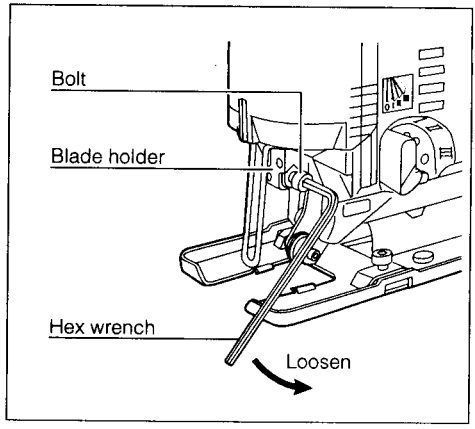
SAVE THESE INSTRUCTIONS.

Installing or removing the saw blade

CAUTION:

- Always be sure that the tool is switched off and unplugged before installing or removing the blade.
- Always clean out all chips or foreign matter adhering to the blade and/or blade holder. Failure to do so may cause insufficient tightening of the blade, resulting in a serious injury.

To install the blade, loosen the bolt on the blade holder with the hex wrench.

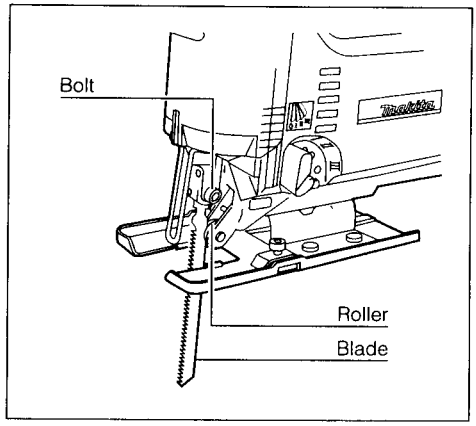


With the blade teeth facing forward, insert the blade into the blade holder as far as it will go. Make sure that the back edge of the blade fits into the roller. Then tighten the bolt to secure the blade.

To remove the blade, follow the installation procedures in revers.

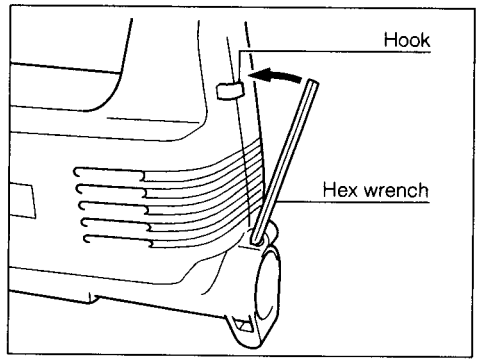
NOTE:

Occasionally lubricate the roller.



Hex wrench storage

When not in use, the hex wrench can be conveniently stored as shown in the figure.

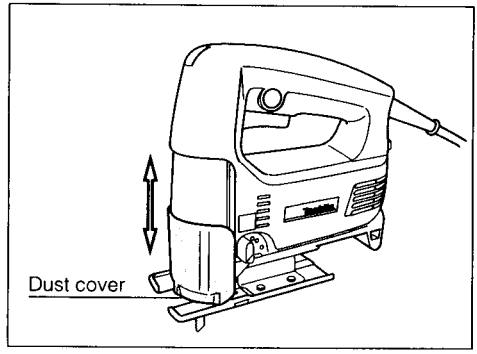


Dust cover

CAUTION:

Always wear safety goggles even when operating the tool with the dust cover lowered.

Lower the dust cover to prevent chips from flying. However, when making bevel cuts, raise it all the way.



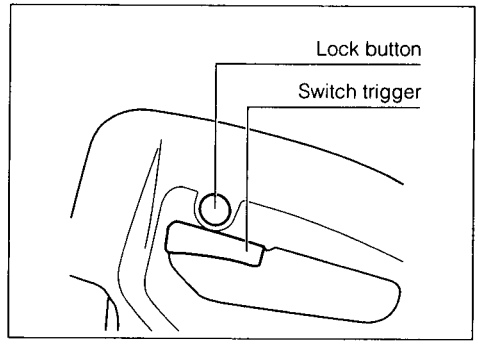
Switch action

CAUTION:

Before plugging in the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.

To start the tool, simply pull the trigger. Release the trigger to stop. For continuous operation, pull the trigger and then push in the lock button.

To stop the tool from the locked position, pull the trigger fully, then release it.

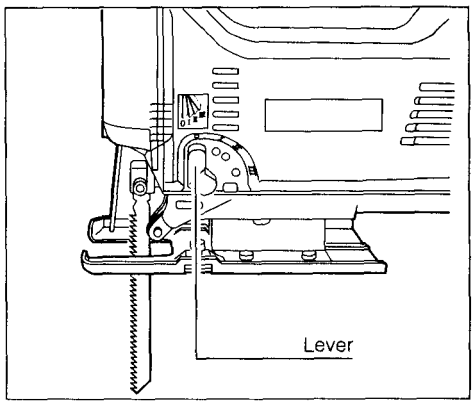


Selecting the cutting action

This tool can be operated with an orbital or a straight line (up and down) cutting action. The orbital cutting action thrusts the blade forward on the cutting stroke and greatly increases cutting speed.

To change the cutting action, just turn the cutting action changing lever to the desired cutting action position.

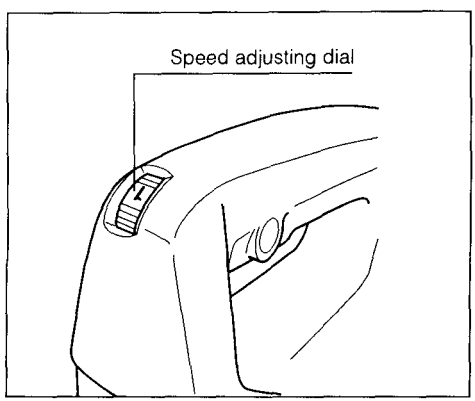
Refer to the table below to select the cutting action.



Position	Cutting action	Applications
0	Straight line cutting action	For cutting mild steel, stainless steel and plastics. For clean cuts in wood and plywood.
I	Small orbit cutting action	For cutting mild steel, aluminum and hard wood.
II	Medium orbit cutting action	For cutting wood and plywood. For fast cutting in aluminum and mild steel.
III	Large orbit cutting action	For fast cutting in wood and plywood.

Speed adjusting dial

The tool speed can be infinitely adjusted between 500 and 3,100 strokes per minute by turning the adjusting dial. Higher speed is obtained when the dial is turned in the direction of number 6; lower speed is obtained when it is turned in the direction of number 1. Refer to the table below to select the proper speed for the workpiece to be cut. However, the appropriate speed may differ with the type of thickness of the workpiece. In general, higher speeds will allow you to cut workpieces faster but the service life of the bade will be reduced.



Workpiece to be cut	Number on adjusting dial
Wood	5 – 6
Mild steel	3 – 6
Stainless steel	3 – 4
Aluminum	3 – 6
Plastics	1 – 4

CAUTION:

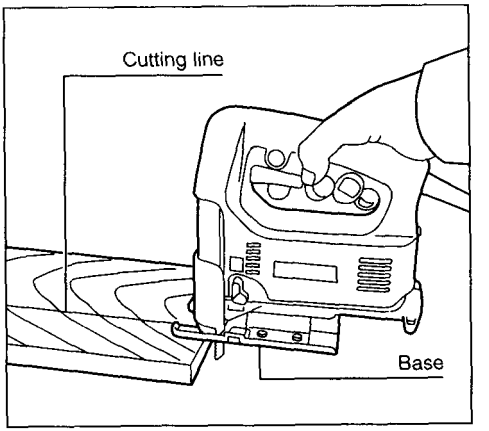
The speed adjusting dial can be turned only as far as 6 and back to 1. Do not force it past 6 or 1, or the speed adjusting function may not longer work.

Operation

CAUTION:

Always hold the tool base flush with the workpiece. Failure to do so may cause blade breakage, resulting in a serious injury.

Turn the tool on and wait until the blade attains full speed. Then rest the tool base flat on the workpiece and gently move the tool forward along the previously marked cutting line. When cutting curves, advance the tool very slowly.

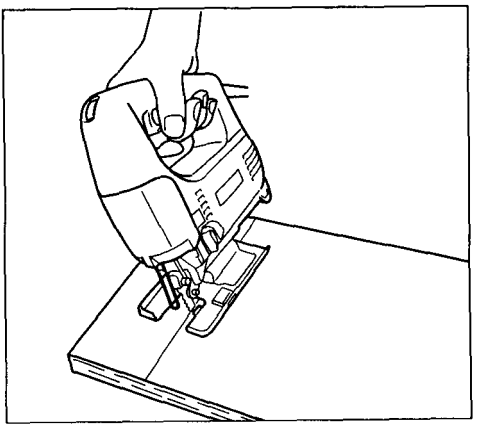


Bevel cutting

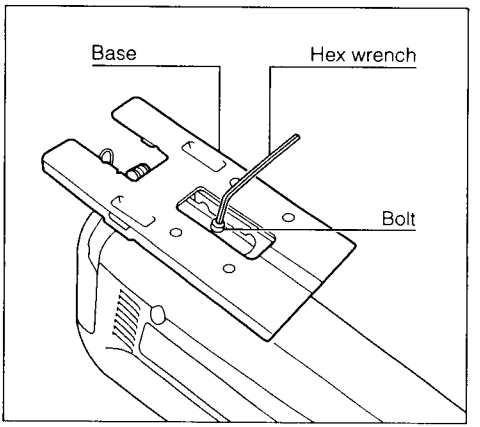
CAUTION:

- Always be sure that the tool is switched off and unplugged before tilting the tool base.
- Raise the dust cover all the way before making bevel cuts.

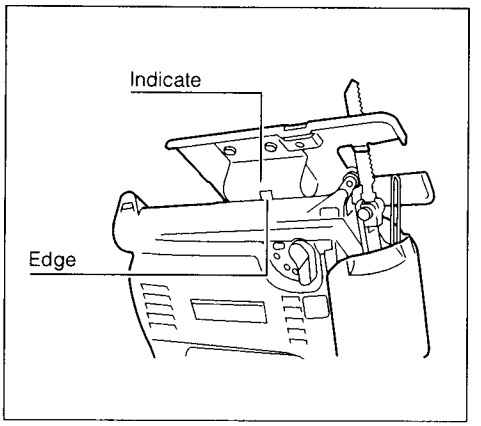
With the tool base tilted, you can make bevel cuts at any angle between 0° and 45° (left or right).



Loosen the bolt on the back of the tool base with the hex wrench. Move the tool base so that the bolt is positioned in the center of the cross-shaped slot in the tool base.

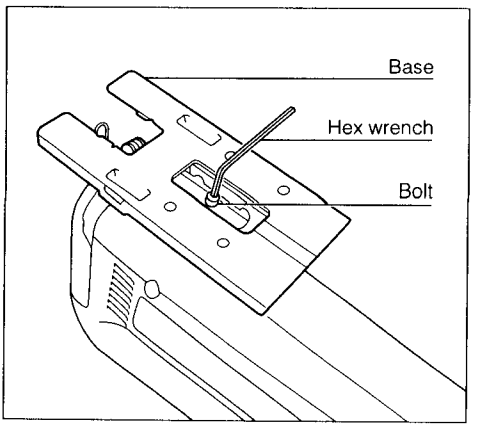


Tilt the tool base until the desired bevel angle is obtained. The edge of the motor housing indicates the bevel angle. Check the contact between the back edge of the blade and the roller, then tighten the bolt to secure the tool base.



Front flush cuts

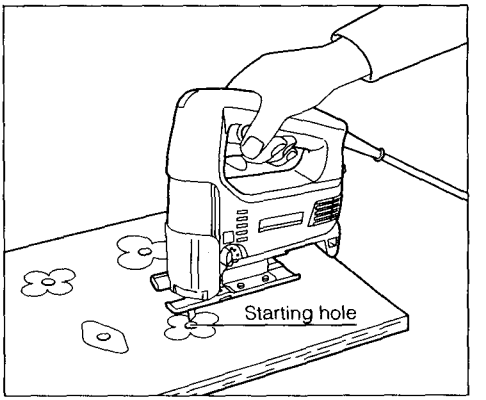
Loosen the bolt on the back of the tool base with the hex wrench, then move the tool base all the way back. Then tighten the bolt to secure the tool base.



Cutouts

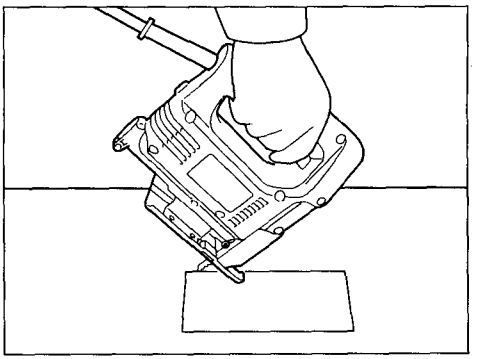
Cutouts can be made with either of two methods A or B.

A) Boring a starting hole: For internal cutouts without a lead-in cut from an edge, pre-drill a starting hole 12 mm (1/2") or more in diameter. Insert the blade into this hole to start your cut.



B) Plunge cutting: You need not bore a starting hole or make a lead-in cut if you carefully do as follows.

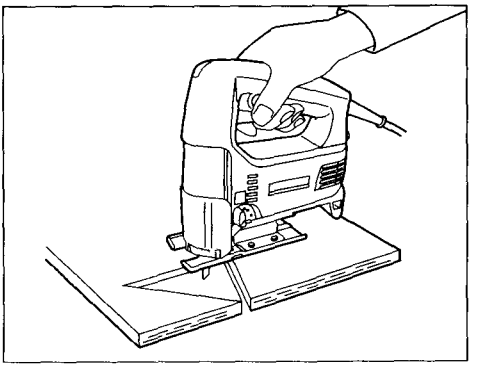
1. Tilt the tool up on the front edge of the base with the blade point positioned just above the workpiece surface.
2. Apply pressure to the tool so that the front edge of the base will not move when you switch on the tool and gently lower the back end of the tool slowly.



3. As the blade pierces the workpiece, slowly lower the base of the tool down onto the workpiece surface.
4. Complete the cut in the normal manner.

Finishing edges

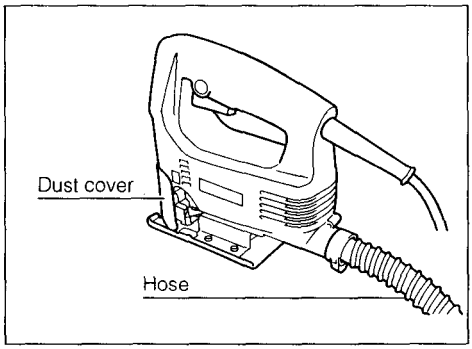
To trim edges or make dimensional adjustments, run the blade lightly along the cut edges.



Metal cutting
Always use a suitable coolant (cutting oil) when cutting metal. Failure to do so will cause significant blade wear. The underside of the workpiece can be greased instead of using a coolant.

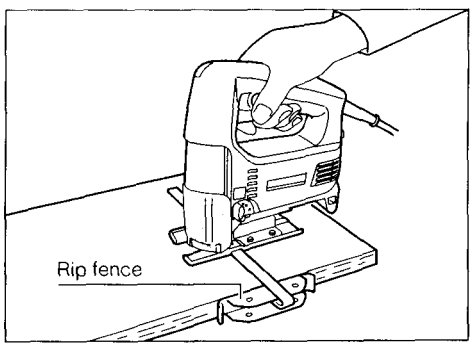
Dust extraction
Clean cutting operations can be performed by connecting this tool to a Makita vacuum cleaner. Insert the hose of the vacuum cleaner into the hole at the rear of the tool. Lower the dust cover before operation.

CAUTION:
Dust extraction cannot be performed when making bevel cuts.

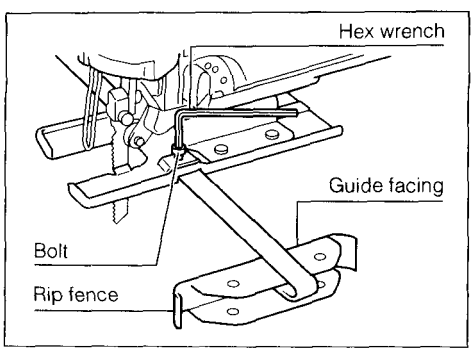


Rip fence (optional accessory)
CAUTION:
Always be sure that the tool is switched off and unplugged before installing or removing accessories.

1) Straight cuts
When repeatedly cutting widths of 160 mm (6-9/32") or less, use of the rip fence (guide rule) will assure fast, clean, straight cuts.



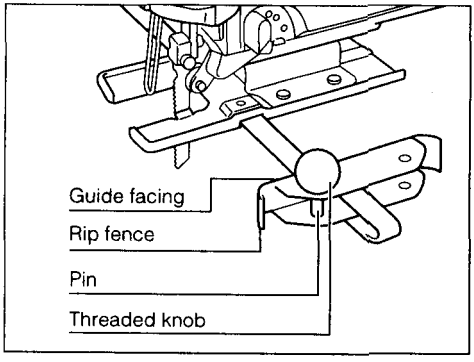
To install, insert the rip fence into the rectangular hole on the side of the tool base with the fence guide facing down. Slide the rip fence to the desired cutting width position, then tighten the bolt to secure it.

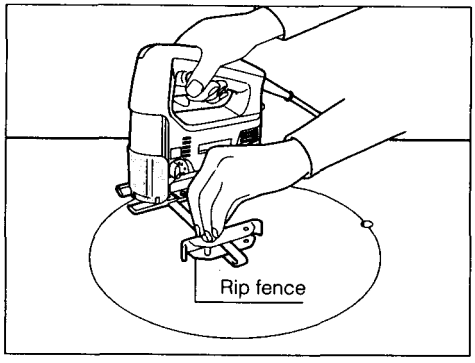


2) Circular cuts

When cutting circles or arcs of 170 mm (6-11/16") or less in radius, install the rip fence as follows.

Insert the rip fence into the rectangular hole on the side of the tool base with the fence guide facing up. Insert the circular guide pin through the either of the two holes on the fence guide. Screw the threaded knob onto the pin to secure the pin. Now slide the rip fence to the desired cutting radius, and tighten the bolt to secure it in place. Then move the tool base all the way forward.

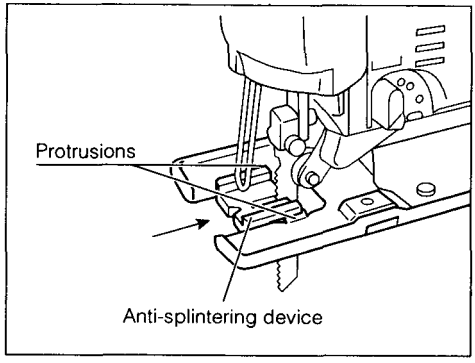




Anti-splintering device (optional accessory)

For splinter-free cuts, the anti-splintering device can be used. To install the anti-splintering device, move the tool base all the way forward and insert it between the two protrusions of the tool base.

CAUTION:
The anti-splintering device cannot be used when making bevel cuts.



MAINTENANCE

CAUTION:

Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

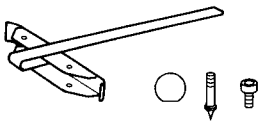
To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

ACCESSORIES

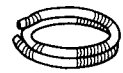
CAUTION:

These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. The accessories or attachments should be used only in the proper and intended manner.

- **Rip fence set (guide rule)**
  Part No.192732-4



- **Hose** (Inner dia. 1-1/8")
  1.5 m (3.3 ft) Part No. 192278-0
  3.0 m (6.6 ft) Part No. 192279-8



- **Hex wrench 3**
  Part No. 783201-2

- **Anti-splintering device** (5 per pkg.)
  Part No. 192733-2

• Tang Shank Jig saw blades

	Feature	Teeth /Inch	Cutting length	Pkg. Qty.	Part No.
#B-10	For fast finish work, especially in plywood	9	3-1/8"	5	792529-7
#B-11	For fast finish work	9	3"	5	792463-1
#B-12	For fast finish work	6	3-1/8"	5	792464-9
#B-13	For roughing-in work	8	3-1/8"	5	792465-7
#BR-13	For splinter-free cuts in wood and plywood	9	2"	5	792729-9
#B-14	Ideal for cutting thin materials	9	2"	5	792466-5
#B-15	Ideal for cutting thin materials	18	3-1/8"	5	792467-3
#B-16	For fast cutting	6	2-3/4"	5	792468-1
#B-16L	Ideal for cutting thick materials	6	6-1/8"	5	792730-4
#B-17	Ideal for scroll cutting	6	2-3/4"	5	792469-9
#B-18	Ideal for scroll cutting	14	1-3/4"	5	792470-4
#B-19	For tough plastics and decorative veneer finishing	12	2-1/2"	5	792471-2
#B-21	For plastic finish work and tough plastics	12	3"	5	792472-0
#B-22	Ideal for stainless steel Also for tough plastics	24	2"	5	792473-8
#B-23	Ideal for stainless steel Also for tough plastics	14	2"	5	792474-6
#B-24	Ideal for stainless steel Also for tough plastics	32	2"	5	792475-4
#B-25	For hardwoods, thick mild steel plate and tough plastics	9	3"	5	792476-2
#B-26	For scroll cutting in hardwoods and for tough plastics	9	2-3/4"	5	792477-0
#B-27	Ideal for scroll cutting For tough plastics	24	2"	5	792478-8
#51	Ideal for stainless steel Also for tough plastics	24	2-1/2"	5	792428-3
#58	For fast cutting	8	3-1/8"	5	792429-1
#59	For fast finish work	8	3-1/8"	5	792430-6

JIG SAW
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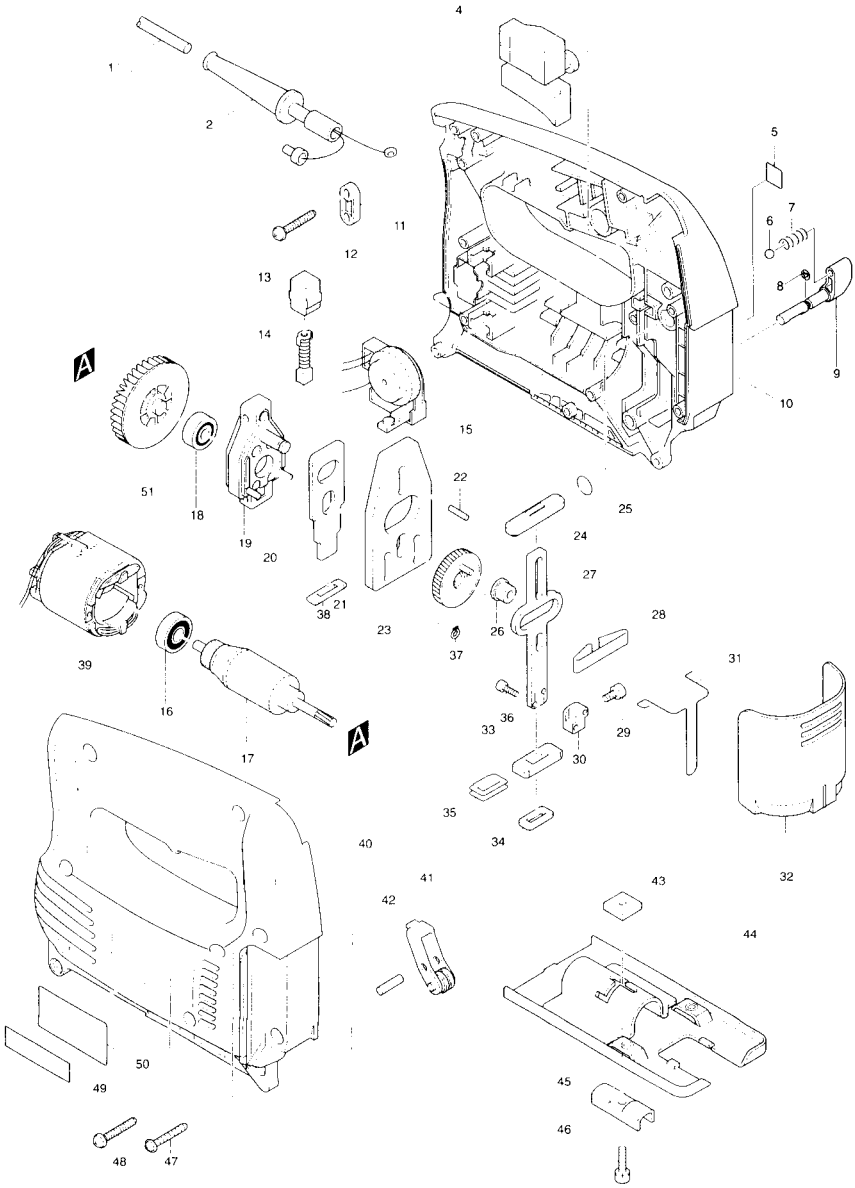

Note: The switch and other part configurations may differ from country to country.

ITEM NO.	NO. USED	DESCRIPTION
MACHINE		
1	1	Cord
2	1	Cord Guard
4	1	Switch
5	1	Indication Label
6	1	Steel Ball 4
7	1	Compression Spring 4
8	1	Stop Ring E 4
9	1	Lever 18
10	1	Housing Set (With Item 5, 40 & 49)
11	1	Strain Relief
12	2	Tapping Screw 4x18
13	2	Brush Holder
14	2	Carbon Brush
15	1	Controller
16	1	Ball Bearing 627LLB
17	1	ARMATURE ASSEMBLY (With Item 16 & 18)
18	1	Ball Bearing 608DDW
19	1	Bearing Case Complete
20	1	Push Plate
21	1	Balance Plate
22	1	Pin 3
23	1	Gear Complete
24	1	Slider Guide
25	2	O Ring 5
MACHINE		
26	1	Collar Sleeve
27	1	Slider
28	1	Leaf Spring
29	1	Hex. Socket Head Bolt M4x8
30	1	Blade Clamp
31	1	Safety Wire
32	1	Dust Cover
33	1	Slider Support
34	1	Poly Uretane Sponge Seal
35	1	Seal Plate
36	2	Hex. Socket Head Bolt M3x10
37	1	Retaining Ring S–6
38	1	Dust Seal
39	1	Field
40	1	Housing Set (With Item 5, 10 & 49)
41	1	Retainer Complete
42	1	Pin 4
43	1	Holder
44	1	Base
45	1	Clamp Complete
46	1	Hex. Socket Head Bolt
47	9	Tapping Screw 4x18
48	1	Tapping Screw 4x35
49	1	Makita Label
50	1	Name Plate

Note: The switch and other part specifications may differ from country to country.

MAKITA LIMITED ONE YEAR WARRANTY

Warranty Policy

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one-year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others;
- repairs are required because of normal wear and tear;
- The tool has been abused, misused or improperly maintained;
- alterations have been made to the tool.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE-YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

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